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Army Regulation 700-15
NAVSUPINST 4030.28C
AFR 71-6
MCO 4030.33C
DLAR 4145.7

Logistics

Packaging of Materiel

Headquarters
Department of the Army
Washington, DC
7 January 1991

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SUMMARY of CHANGE

AR 700-15
NAVSUPINST 4030.28C
AFR 71-6
MCO 4030.33C
DLAR 4145.7
Packaging of Materiel

This revision restructures the entire text in UPDATE format. Revisions have been made throughout this joint regulation to incorporate policies and procedures for performance oriented packaging (POP) and the protection of electrostatic discharge sensitive (ESDS) items.

This revision--

- Updates hazardous materials reference (paras 1-2a(7) and 2-1t).
- Provides references for packaging of ESDS items (paras 1-2a(9) and 1-2a(10)).
- Clarifies procedures for submission of test reports documented in compliance with United Nations POP requirements for hazardous materials (paras 2-1x and 4-1c).
- Designates authenticated documents used for prescribing packaging requirements for hazardous materials (para 2-1y).
- Provides guidance on protective packaging of ESDS items (para 2-1z).
- Reflects marking requirements for hazardous materials (para 3-3).
- Contains guidance on the packaging of hazardous materials returns (paras 3-7c and 2-1t).
- Provides project information exchange reporting requirements for POP container compliance tests (para 4-2b).
- Incorporates provisions for the preparation of POP test reports (para 4-2c(1)).
- Includes the use of SF 298 (Report Documentation Page) (para 4-2c(1)).
- Prescribes the use of DTIC user-access codes to access test data for hazardous materials (para 4-2c(2)).

Departments of the Army,
the Navy, the Air Force,
and the Defense
Logistics Agency
7 January 1991

*Army Regulation 700–15
NAVSUPINST 4030.28C
AFR 71–6
MCO 4030.33C
DLAR 4145.7

Effective 6 February 1991

Logistics

Packaging of Materiel

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History. This UPDATE printing publishes a revision of this publication. Because the publication has been extensively revised, the changed portions have not been highlighted.

Summary. This regulation on the packaging of materiel has been revised. It implements DODI 4100.14 and covers packaging requirements, specifications, levels of protection, and project information exchange requirements. Specifically, this revision incorporates policies and procedures for performance oriented packaging and the protection of electrostatic discharge sensitive items.

Applicability. This regulation applies to the Active Army, the Army National Guard and the U.S. Army Reserve. Specifically, it applies to all Department of Defense components (U.S. Army, U.S. Air Force, U.S. Navy and Marine Corps, and the Defense Logistics Agency) responsible for packaging an item throughout its life cycle.

Internal control systems. This joint regulation is not subject to the requirements of AR 11-2. It does not contain internal control provisions.

Supplementation. Commands and agencies may supplement this regulation according to applicable Service and Defense Logistics Agency directives. For Army, supplementation of this regulation and establishment of command and local forms are prohibited without prior approval from Headquarters, Department of the Army, ATTN: DALO-SMP-S, Washington, DC 20310-10546.

Interim changes. Interim changes to this joint regulation are not official unless they are authenticated by the Administrative Assistant to the Secretary of the Army. Users will destroy interim changes on their expiration date unless sooner superseded or rescinded.

Suggested improvements. The proponent agency of this joint regulation is the Deputy Chief of Staff for Logistics. Army users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Commander, U.S. Army Materiel Command, ATTN: AMCSM-MTS, 5001 Eisenhower Avenue, Alexandria, VA 22333-0001. Other Services will use their appropriate Service channels.

Distribution. Army: Distribution of this publication is made in accordance with the requirements of DA Form 12-09-E, block number 3755, intended for command level C for Active Army, C for the Army National Guard, and D for the U.S. Army Reserve. Air Force, F. Marine Corps, MARCORPS CODE 8R, Defense Logistics Agency, 2, J, Navy (2 copies)—SNDL: FA (less FA1, FA2, FA34 through FA41); FB (less FB1, FB42, FB44, FB47, FB49, FB53); FC (less FC1, FC9, FC13); FF (less FF1, FF6, FF14, FF17, FF18, FF20 through FF48, FF50 through FF61); FKA (less FKA1F, FKA16B, FKA16C); FKM (only FKM8 through FKM13, FKM15, FKM17, FKM18, FKM24, FKM25); FKN (less FKN5 through FKN8, FKN11, FKN12); FKP (less FKP6D, FKP14, FKP15); FKQ, FKR (less FKR8); FR (less FR5, FR9 through FR19); FT (only FT1 through FT6, FT10 through FT28, FT39, FT55, FT56, FT60, FT85, FT95). Copy to—SNDL: A3 (OP 09B), NAVSUP 0821 (15 copies), 0611 (25 copies), 032, 09A, 091, 91. This joint regulation is stocked at: CO, Standardization Documents Order Desk, Bldg 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

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*This regulation supersedes AR 700-15/NAVSUPINST 4030.28B/AFR 71-6/MCO 4030.33B/DLAR 4145.7, dated 15 January 1984.

Chapter 1
General

1-1. Purpose

This regulation–

a. Establishes joint policies for all Department of Defense (DOD) components in the development of uniform requirements for the packaging of materiel acquired, stored, or shipped.

b. Provides uniform criteria for the selection and prescription of packaging at time of acquisition, storage, or shipment.

1-2. References

a. Required references.

(1) AFR 71-4/TM 38-250/NAVSUPPUB 505/MCO P4030.19E/DLAM 4145.3 (Preparation of Hazardous Materials for Military Air Shipment). Cited in paragraph 2-1t.

(2) AR 70-44/OPNAVINST 4600.22/AFR 80-18/MCO P4610-14C/DLAR 4500.25 (Department of Defense Engineering for Transportability). Cited in paragraph 2-1d.

(3) DLAR 4140.55/AR 735-11-2/SECNAVINST 4355.18/AFR 400-54/MCO 4430.3J (Reporting of Item and Packaging Discrepancies). Cited in paragraph 3-10.

(4) DOD 4500.32-R (Military Standard Transportation and Movement Procedures). Cited in paragraphs 2-1t and 3-3.

(5) MIL-STD-129 (Marking for Shipment and Storage). Cited in paragraphs 3-3 and 3-7a and b.

(6) MIL-STD-1510 (Container Design Retrieval System, Procedures for Use of). Cited in paragraph 2-1w.

(7) International Air Transport Association (IATA) Dangerous Goods Regulations. Cited in paragraph 2-1t.

(8) Title 49, Code of Federal Regulations (49 CFR) 100-199 (Transportation). Cited in paragraph 2-1t.

(9) DOD-HDBK-263, Electrostatic Discharge Control Handbook for Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices (Metric)). Cited in paragraph 2-1z.

(10) MIL-STD-1686, Electrostatic Discharge Control Program for Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices (Metric)). Cited in paragraph 2-1z.

(11) International Civil Aviation Organization (ICAO) Technical Instructions on the Safe Transport of Dangerous Goods by Air. Cited in paragraph 2-1t.

(12) International Maritime Dangerous Goods Code (IMDG Code). Cited in paragraph 2-1t.

b. Referenced forms.

(1) SF 298 (Report Documentation Page).

(2) SF 364 (Report of Discrepancy).

1-3. Explanation of abbreviations and terms

Abbreviations and special terms used in this joint regulation are explained in the glossary.

1-4. Responsibilities

a. Commanders or directors of DOD components will–

(1) Comply with policies, objectives, and guidelines in this joint regulation.

(2) Ensure that project information is made available for exchange according to chapter 4 of this joint regulation.

(3) Comply with occupational safety and health program guidelines in paragraph 3-8.

b. The Department of the Army will–

(1) Act as the executive agent for DOD in developing policy on the use of packaging service contracts.

(2) Collect and disseminate information on the availability of service contracts.

c. Acquiring commands and components will–

(1) Apply levels of protection according to paragraph 3-2a.

(2) Select levels of protection according to paragraph 3-2a.

d. Shipping activities will–

(1) Comply with paragraph 3-2b when applying and selecting levels of protection.

(2) Protect retrograde and returned materiel in accordance with paragraph 3-7.

Chapter 2
Packaging Requirements, Specifications, and Levels of Protection

2-1. Requirements and specifications

a. Materiel will be packaged to prevent damage and deterioration and to provide for efficient and economical handling.

b. Use will be made of industrial packaging when such packaging is known to satisfy DOD needs. This use should be determined before a contract is awarded or within the life cycle of the contract when substantial savings to the Government may result.

c. Requirements for packaging will be developed for all DOD items to meet conditions described in this joint regulation. These requirements will be documented uniformly as directed under the DOD Standardization Program. Packaging specifications will be reviewed to validate cost effectiveness, eliminate redundancy, and incorporate changes. Standardization will be performed in a timely manner.

d. DOD packaging will be designed to comply with minimum weight and cube requirements prescribed in AR 70-44/OPNAVINST 4600.22/AFR 80-18/MCO 4610-14C/DLAR 4500.25.

e. A DOD system with retrieval capability will be maintained among packaging activities engaged in research, design, development, testing, or materiel evaluation. This system will ensure the exchange and availability of information on proposed, in-process, and completed packaging projects.

f. Specifications will include the commodity and its usage, the prescribed quantity of the item to be included in the unit, intermediate, and exterior pack, and the unitized load.

g. The requirements for packaging in standardization and contractual documents or used by DOD activities will provide the detailed requirements determined necessary and cost effective for the specified level of protection. Procedures will be developed to measure and document packaging savings and cost avoidance actions.

h. Mobilization, reserve, and contingency stocks will be maintained in a state of readiness.

i. DOD standardization documents prescribing packaging requirements will be coordinated with a representative cross section of the private sector.

j. Required packaging to maintain the item from the time of acquisition to anticipated use will be provided at the time of acquisition. This protection may be obtained from the prime contractor, subcontractor, manufacturer, or a packaging contractor. A Government facility will be used only when–

(1) It is established as cost beneficial.

(2) Available commercial sources cannot or will not provide the service within the required time frame.

k. When logistic requirements are revised, packaging prescriptions within the appropriate level of protection will be reviewed to determine their compatibility with new requirements.

l. Materiel packaged at a level lower than that required for a particular shipment or storage will be repackaged.

m. Additional packaging for a higher level of protection will not be provided when an agreement to ship with a lower than normally required level of protection is reached. This agreement will be between the item manager or shipper and requisitioner.

n. Unitized loads will be used when the items or packs being shipped are compatible and unitization results in overall economy, or when requested by the requisitioning activity. The requirement for unitization will be specified in acquisition actions when quantities permit and overall system economies will result.

o. Levels of protection will be reduced for containerized shipments when–

(1) Items are intended for immediate use.

(2) The containerization medium is retained as a storage or issue facility.

(3) Warehouse storage is provided upon receipt. Materiel previously packaged at a higher level of protection will not be repackaged to meet this requirement.

p. Automated packaging equipment will be used within DOD facilities to increase productivity and reduce operating costs. A viable modern packaging program will be maintained to keep abreast of current industry packaging technology.

q. Vendors will be encouraged to use advanced packaging methods, procedures, equipment, and materials.

r. Standard sized modular units, intermediate, and exterior packs will be compatible with established pallet, containerization, and air cargo transport system sizes approved by the International Organization for Standardization and the American National Standards Institute.

(1) All package sizes will be uniform when shipping materiel within DOD to achieve automated production and help to standardize packaging.

(2) The concepts of "minimum weight and cube packs" and "packaging designed to fit the item," however, may not always be possible and practical.

s. This joint regulation will not be construed as authorizing any compromise with established safety standards when selecting levels of protection for ammunition, explosives, or other hazardous materials.

t. Hazardous cargo is regulated by Title 49, Code of Federal Regulations (49 CFR) 100–199 for geographical North America shipments; International Maritime Organization (IMO), International Maritime Dangerous Goods Code (IMDG Code) for international vessel shipments; International Civil Aviation Transport Association (IATA) for international and domestic commercial air shipments; and AFR 71-4/TM 38-250/NAVSUPPUB 505/MCO P4030.19E/DLAM 4145.3 for military air shipments. Transportation through the Defense Transportation System is covered in DOD 4500.32-R. Hazardous cargo shipments must be packaged and marked to meet the requirements of these documents.

u. In selecting packaging in support of security assistance programs, use the guidance from the directives that apply to these programs.

v. Automated systems for the selection of levels of protection will be reviewed at least annually for the adequacy of the decision logic.

w. Design and function data on all specialized reusable containers will be furnished according to MIL-STD-1510. This information will be sent to the Container Design Retrieval System (CDRS) Management Office (MSD/YJA), Eglin Air Force Base, FL 32542-5000. When it is determined that a specialized container design is required, the CDRS will be interrogated by the procedure in MIL-STD-1510.

x. The Defense Technical Information Center (DTIC) will be utilized as the repository for test reports that document those tests necessary to determine compliance with the United Nations POP requirements for hazardous materials (see para 4-2c).

y. Packaging requirements for hazardous materials will be prescribed by authenticated documents such as special packaging instructions, engineering drawings, and/or coded packaging requirements.

z. Packaging required to protect ESDS items against damage and deterioration from the time of acquisition to anticipated use will be provided at the time of acquisition. MIL-STD-1686 and DOD-HDBK-263 will be used as guidelines in the identification, packaging, handling, and storing of ESDS items.

2-2. Levels of protection

The following levels of protection apply equally to preservation and packing (P&P):

a. Level A. This packaging provides maximum protection. It is needed to protect materiel under the most severe worldwide shipment, handling, and storage conditions.

(1) P&P will be designed to protect materiel against direct exposure to extremes of climate, terrain, and operational and transportation environments, without protection other than that provided by the pack.

(2) The conditions to be considered include, but are not limited to –

(a) Multiple handling during transportation and intransit storage from the point of origin to final user.

(b) Shock, vibration, and static loading during shipment.

(c) Shipdeck loading, transfer at sea, helicopter delivery, and offshore or over-the-beach discharge, to final user.

(d) Environmental exposure during shipment or during intransit operations where port and warehouse facilities are limited or nonexistent.

(e) Outdoor storage in all climatic conditions for a minimum of year.

(f) Static loads imposed by stacking.

b. Level B. This packaging provides intermediate protection. It is needed to protect materiel under anticipated favorable environmental conditions of worldwide shipment, handling, and storage.

(1) P&P will be designed to protect materiel against physical damage and deterioration during favorable conditions of shipment, handling, and storage.

(2) The conditions to be considered include, but are not limited to –

(a) Multiple handling during transportation and intransit storage.

(b) Shock, vibration, and static loading of shipments worldwide by truck, rail, aircraft, or ocean transport.

(c) Favorable warehouse environment for a minimum of 18 months.

(d) Environmental exposure during shipment and intransit transfers, excluding deck loading and offshore cargo discharge.

(e) Stacking and supporting superimposed loads during shipment and extended storage.

c. Level C. This packaging provides minimum protection. It is needed to protect materiel under known favorable conditions. The following criteria determine the requirements for this degree of protection.

(1) Use or consumption of the item at the first destination.

(2) Shock, vibration, and static loading during the limited transportation cycle.

(3) Favorable warehouse environment for a maximum of 18 months.

(4) Effects of environmental exposure during shipment and intransit delays.

(5) Stacking and supporting superimposed loads during shipment and temporary storage.

Chapter 3
Procedures for Determining Packaging Requirements

3-1. Determination of packaging requirements

(a) The nature of an item determines the type and extent of protection needed to prevent deterioration of items in storage. This determination essentially involves selection of one of the six basic methods of preservation. Shipping and handling as well as length of storage considerations dictate the type of materials selected for P&P.

(1) Technical and performance requirements related to the expected hazards are necessary to ensure that adequate protection has been provided. Most military supplies encounter a wide range of conditions too broad to achieve precise engineered performance. Therefore, levels of protection are defined to correlate to these widely divergent conditions.

(2) To provide adequate and economical protection to meet these broad conditions, technical instructions will be developed for meeting each level.

(a) In some cases, three sets of approach will not be attainable.

(b) Levels of protection are described in terms of logistical conditions. They must be translated into specific technical or design requirements for the conditions to which P&P will be exposed.

b. The logistics support analysis (LSA) will include –

(1) Review of packaging requirements before and during full-scale weapons system development.

(2) Evaluation of cost effectiveness throughout the initial provisioning and resupply processes.

c. Industrial packaging will be acceptable for any level of protection when the technical design of the package meets all conditions of the level of protection specified.

(1) Industrial packaging must provide the same level of protection against physical and environmental damage as the military package. It will be marked to the level it meets.

(2) Use of industrial packaging is contingent upon no increase in packaging charges, size, weight, or delay in delivery. In general –

a. Bulk practices used in interplant and intraplant movements or shipments to jobbers are not acceptable unless they are the usual trade practices for individual commodities such as coal, textiles, petroleum, and subsistence.

b. The packaging details will be incorporated into standardization and acquisition documents when applicable. Specific standards of industries may be used when appropriate.

3-2. Selection of levels of protection

a. Procedures for selecting and applying packaging protection will be developed by acquiring commands and components as follows:

(1) Maintain and apply realistic experience data in determining requirements for materiel scheduled for delivery to storage activities. This will reduce repackaging work loads for storage and redistribution because of too high or too low levels of protection.

(2) Implement and ensure annual review of decision logic in automated and manual systems used for the selection of levels of protection.

(3) Order the required packaging at time of acquisition as part of the prime contract or by separate contract. The procuring contracting officer (PCO) determines the most beneficial way.

(4) Include packaging requirements in appropriate acquisition documents. These requirements will be stated clearly and in enough detail to acquire the required packaging of supplies and equipment.

(5) Select levels of protection based on anticipated shipping, handling, transportation and environmental conditions, and duration of required protection or storage.

(6) Document the need for additional funds when higher than necessary levels of protection are specified and are found to be more costly than the minimum protection.

(7) Advise storage activities of the packaging needed for mobilization or contingency reserve stocks.

(8) Screen excess reusable containers to determine if they should be returned to the distribution point. They also may be transferred to a Defense Reutilization and Marketing Office as excess or unserviceable assets needing repair or replacement.

(9) Establish procedures for evaluating specialized and general reusable containers considering performance, use, trip life, and life cycle cost. Reusable containers are either specialized or general purpose. Depending on the durability of the container, both specialized and general purpose containers fall into two categories, long life and short life.

b. Procedures for selecting and applying packaging protection will be developed by shipping activities as follows:

(1) Ensure that packaging complies with contract requirements for materiel accepted at destination (first delivery point).

(2) Provide the required packaging for materiel being shipped, transshipped, or placed in storage.

(3) Establish internal controls to ensure that, during the selection of materiel for shipment, consideration is given to previously packaged stock which meets and will eliminate unnecessary upgrading, or furnishing of levels which exceed anticipated requirements.

(4) Maintain mobilization or contingency reserve stocks ready-for-issue.

(5) Provide for and ensure availability of necessary materials and resources for packaging of rotational stocks upon demand to support mobilization or contingency operations.

(6) Establish internal procedures to ensure maximum use and reuse of general purpose reusable containers.

(7) Include reporting to item or inventory managers, according to individual Service or agency procedures, those reusable containers for which no requirement exists.

c. When a combination of conditions used for determining the level of protection falls within more than one level, the highest level will be applied. If packaging requirements at the requested level are not established, the next higher level will be applied or the item manager will be asked for instructions.

3-3. Marking

The marking for shipment and storage will be according to MIL-STD-129, DOD 4500.32-R, and other applicable standards, specifications, and authorized instructions. When appropriate, detailed marking instructions will be included in the contract or order. Detailed marking instructions provided for hazardous materials will include United Nations POP markings as well as all other required hazardous materials packaging markings.

3-4. Use of options

The option that provides protection at the lowest overall cost will be selected when –

a. Standards, specifications, purchase descriptions, packaging data sheets or cards, transportation packaging orders, special packaging instructions, drawings, and other authorized instructions contain options for selecting methods, materials, or procedures for specific levels of protection.

b. The choice is the prerogative of the Defense activities.

3-5. Coordination of requirements

In preparing packaging data for repair parts, coordination will be effected to ensure compatibility with maintenance, packaging, handling, storage, transportation, supply, and acquisition requirements. The requirements will include pack quantities and, as appropriate, intermediate containers, shipping containers, and unit load quantities in agreement with issue, handling, and shipping requirements.

3-6. Establishing pack quantities

The development and ordering of quantities to be placed in the unit, intermediate, and exterior pack require coordination among elements of the item manager's organization to include supply, maintenance, and packaging. These quantities will be established after evaluating all known factors, including –

a. Maintenance concept for the item being supported.
b. Basis for issue such as allowance and load list.
c. Life expectancy such as shelf-life and mortality rate.
d. Chemical and physical characteristics.
e. Construction and functional requirements.
f. Fragility.
g. Unit cost.
h. Ease of accountability and inventory.
i. Industrial practice quantity for like items.
j. Military standards.
k. Applicable regulations.

3-7. Protecting retrograde cargo or returned materiel

Retrograde materiel will be protected consistent with the provisions of the commodity grouping. When technical requirements have not been developed, the materiel will be protected as follows:

a. Serviceable materiel. Packaging to maintain the integrity of the degree of serviceability of the materiel being returned will be provided by the shipping activity. For reparables, the packaging afforded must be enough to ensure that no further damage occurs. Marking will be as required by MIL-STD-129.

b. Unserviceable reparable materiel. Sufficient packaging to ensure that the item does not deteriorate to a lower condition code will be provided by the shipping activity. All items will be identified with the national stock number, nomenclature, and quantity. Materiel condition tags or labels will be applied as required by MIL-STD-129.

c. Hazardous materials returns. Hazardous materials returns will be packaged according to applicable regulations cited in paragraph 2-1t.

3-8. Occupational safety and health

a. There will be no compromise with the provisions of the Occupational Safety and Health Act and the Occupational Safety and Health Program for Federal employees who package materiel.

b. An effective and comprehensive occupational safety and health program will be established and maintained to –

(1) Provide safe and healthful places for packaging.

(2) Acquire, maintain, and require the use of safety and protective equipment and devices for packaging operations.

(3) Provide an adequate record system for recording accidents and illnesses for proper evaluation and corrective action.

(4) Ensure a safety management information program.

(5) Periodically inspect work areas to ensure compliance with safety programs.

(6) Include plans and procedures for evaluating the effectiveness of the safety program.

3-9. Ecology

a. Pollution of the environment due to packaging operations at DOD activities will be controlled and held to a minimum. Environmental quality standards prescribed by Federal, state, and local authorities will be used in determining measures to control pollution. In design and selection of packaging systems and materials, consider reuse, biodegradability, and recycling to promote environmental quality and the conservation of resources.

b. Environmental pollution preventive measures will be incorporated into applicable standards, specifications, and instructions covering materials and processes used in packaging.

c. Before introducing a new material for use, the environmental consequences must be assessed to evaluate its impact.

3-10. Reporting discrepancies

SF 364 (Report of Discrepancy) is used to report item and packaging discrepancies. (See DLAR 4140.55/AR 735-11-2/SECNAVINST 4355.18/AFR 400-54/MCO 4430.3J.)

Chapter 4
Project Information Exchange

4-1. Project requirements

a. Packaging project information will be maintained and exchanged as outlined in this regulation.

b. For the purpose of packaging project information exchange, a project is any planned work load involving 160 or more man-hours (including all support functions). This entails research, development, testing, or evaluation that may result in new or improved packaging concepts, methods, or procedures. It includes research, development, testing, or evaluation of new materials. Excluded are internal procedures, suggestions, briefings, and presentations.

4-2. Reporting requirements

a. Bibliographic information on all packaging projects will be submitted to the Defense Logistics Studies Information Exchange (DLSIE).

b. Reporting requirements apply to project initiations, projects in process, and project completions as outlined below. (An exception is test reports documenting container compliance with United Nations POP requirements for hazardous materials.)

(1) *Project initiation.*

(a) Bibliographic information on proposed projects will be requested from DLSIE at least 14 days before project initiation.

(b) DLSIE will provide the requesting activity a bibliography of completed or in-process packaging projects.

(c) After screening the bibliography, DLSIE will be requested to provide copies of any existing projects related to the project being initiated. Projects will be requested by their assigned logistics document (LD) identifier number.

(d) DLSIE will provide the packaging activity a microfiche record of applicable projects.

(e) Bibliographic information on the project being initiated will then be submitted to DLSIE.

(2) *Project in process.*

(a) Updated bibliographic information will be submitted to DLSIE on any project that has significant changes in information (such as change in scope). This information will be submitted within 10 working days after the change.

(b) If no updated information has been submitted within 1 year of the preceding submission, bibliographic information on the project will be reviewed, updated, and resubmitted.

(3) *Project completion.*

(a) Complete bibliographic information will be submitted to DLSIE within 10 working days after completion of the project.

(b) Two copies of each project report will be submitted to DLSIE upon publication. This includes documentation related to completion of the project, including letter reports. The DLSIE study descriptor "packaging" will be used on all project reports submitted in addition to any other applicable descriptors.

(c) DLSIE will include the project in any bibliography requested by a DOD component after receipt of the completed project report.

c. POP test reports for hazardous materials.

(1) The DOD packaging test activity will submit one copy of test reports to DTIC, formatted according to the test report format for performance oriented packaging testing of hazardous materials per United Nations requirements. The test report will be under cover of SF 298. It will be identified on SF 298 by a test report number prefixed by the letters DOD/POPHM.

(2) DTIC user-access codes will be established within packaging elements to access test data.

Glossary

Section I
Abbreviations

CDRS
Container Design Retreval System

CONEX
container express

DLSIE
Defense Logistic Studies Information Exchange

ESDS
electrostatic discharge sensitive

IATA
International Air Transport Association

ICAO
International Civil Aviation Organization

IMCO
Inter-Governmental Maritime Consultative Organization

IMO
International Maritime Organization

LD
logistics document

LSA
logistics support analysis

MILVAN
military-owned demountable container

P&P
preservation and packing

PCO
procuring contracting officer

POP
performance oriented packaging

RO/RO
roll on/roll off

SEAVAN
commercial- or Government-owned (or leased) shipping container

UN
United Nations

Section II
Terms

Containerization
The use of transport containers (container express (CONEX)), military-owned demountable container (MILVAN), commercial or Government-owned (or leased) shipping container (SEAVAN), and roll on/roll off (RORO) trailer to unitize cargo for transportation, supply, and storage. Containerization aids carriage of goods by one or more modes of transportation without the need for intermediate handling of the contents. Containerization incorporates supply, security, packaging, storage, and transportation into the distribution system from source to user.

Exterior pack
A container, bundle, or assembly that is sufficient by design and construction to protect unit and intermediate packs and contents during shipment and storage. This can be a unit pack or a container with any combination of unit or intermediate packs.

General purpose reusable container
A container designed to maintain a number of items within certain limits of size, weight, and fragility. A general purpose reusable container can be reused a number of times and may be identified by military or Federal specifications.

Industrial packaging
The materials and methods used by the supplier to meet the requirements of the distribution systems serving both DOD and industrial consumers.

Intermediate pack
A wrap, box, or bundle that contains two or more unit packs of identical items.

Marking
Application of numbers, letters, labels, tags, symbols, or colors for handling or identification during shipment and storage.

Military packaging
The materials and methods prescribed in Federal or military specifications, standards, drawings, or other authorized documents designed to provide the packaging necessary for the prescribed level of protection.

Packaging
The processes and procedures used to protect materiel from deterioration, damage, or both. It includes cleaning, drying, preserving, packing, marking, and unitization.

Packing
Assembling of items into a unit, intermediate or exterior pack with necessary blocking, bracing, cushioning, weatherproofing, and reinforcement.

Preservation
Application of protective measures, including cleaning, drying, preservative materials, barrier materials, cushioning, and containers when necessary.

Reusable container
A shipping and storage container that is designed for reuse without impairment of its protective function. A shipping and storage container that can be repaired, refitted, or both, to prolong its life or to adapt it for shipment of items other than that for which it was originally intended.

Specialized reusable container
A container designed to maintain a specific item, or many items, while being transported, stored, or handled. A specialized reusable container has an expected service life equal to or greater than that of the item it is designed to protect. Engineers' specifications are used to define form, fit, function, materials, tolerances, and manufacturing techniques. These containers are accountable according to Service or agency requirements.

Unit pack
The first tie, wrap, or container applied to a single item, or a quantity thereof, or to a group of items of a single stock number, preserved or unpreserved, that constitutes a complete or identifiable package.

Unitization
Assembly of packs of one or more line items of supply into a single load so that the load can be handled as a unit through the distribution system. Unitization (unitized loads or unit loads) encompasses consolidation in a container, placement on a pallet or load base, or securely binding together.

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